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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,033	11/14/2005	Hilko Hakvoort	10191/3746	1219
26646 7590 03/05/2008 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004				
EXAMINER				
WEST, PAUL M				
ART UNIT		PAPER NUMBER		
2856				
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03/05/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/537,033

**Applicant(s)**

HAKVOORT ET AL.

**Examiner**

PAUL M. WEST

**Art Unit**

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/08)  
Paper No(s)/Mail Date 05312005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano (JP 11037800) in view of Nakamura et al. (2002/0020229).
3. Regarding claims 11 and 14, Takano teach a method for reconstruction of an angle signal of a rotation angle sensor having a periodic characteristic curve featuring a plurality of segments or periods, comprising: determining positive and negative signal jumps in the sensor signal (Abstract); generating a segment value (absolute data value in Abstract), wherein the segment value specifies in which segment (data area) a measured rotation angle signal is located.
4. Takano does not explicitly teach that an angle value is measured and the angle signal is reconstructed but does teach monitoring a signal which corresponds to the angle of rotation (see Fig. 2). Nakamura et al. teach a rotation angle sensor having a periodic characteristic curve (Fig. 20) featuring a plurality of segments or periods, wherein an angle is measured and an absolute angle is reconstructed based on the measured angle signal and which period or segment the signal is in (Par. 0095). Note that this necessarily incorporates into the signal, the counted number of periods and the width of each period. It would have been obvious to one of ordinary skill in the art to

combine the teachings of Nakamura et al. with the method of Takano because knowing the absolute angle measurement would provide important information in the case of a steering angle sensor as taught by Nakamura et al.

5. Regarding claim 12, Takano teaches that positive and negative signal jumps are determined boundary or threshold monitoring a rate of change of the sensor signal (Abstract; Fig. 2).

6. Regarding claim 13, Takano teaches one of incrementing and decrementing the segment value (absolute data) when one of a positive and a negative signal jump is detected (Fig. 2).

7. Regarding claim 15, the combination of Takano and Nakamura et al. does not explicitly teach correcting an offset of the reconstructed angle. However it would have been obvious to one of ordinary skill in the art to correct for any offset because this simply amounts to calibrating or zeroing the measuring instrument, and it is well-known that such a process is necessary to obtain an accurate measurement.

8. Regarding claims 16 and 19, Takano teaches a rotation angle sensor system, comprising: a rotation angle sensor (light receiver) having a measuring range including only on partial range of a total measuring range, the rotation angle sensor having a periodic characteristic curve featuring a plurality of segments between which jumps occur (see Fig. 2); an analyzer unit (judging circuit) detects positive and negative jumps in a sensor signal and determines a new segment value (absolute data) after the occurrence of a jump.

9. Takano does not explicitly teach that an angle value is measured and the angle signal is reconstructed but does teach monitoring a signal that corresponds to the angle of rotation (see Fig. 2). Nakamura et al. teach a rotation angle sensor having a periodic characteristic curve (Fig. 20) featuring a plurality of segments or periods, wherein an angle is measured and an absolute angle is reconstructed based on the measured angle signal and which period or segment the signal is in (Par. 0095). Note that this necessarily incorporates into the signal, the counted number of periods and the width of each period. It would have been obvious to one of ordinary skill in the art to combine the teachings of Nakamura et al. with the system of Takano because knowing the absolute angle measurement would provide important information in the case of a steering angle sensor as taught by Nakamura et al.
10. Regarding claim 17, Takano teaches the analyzer unit (judging circuit) monitoring a sensor signal threshold or boundary value to detect positive and negative signal jumps (Abstract).
11. Regarding claim 18, Takano teaches the analyzer unit having a segment counter that is one of incremented and decremented when one of a positive and a negative signal jump is detected (Fig. 2).
12. Regarding claim 20, the combination of Takano and Nakamura et al. does not explicitly teach an arrangement for detecting an offset when the sensor is initialized. However, it would have been obvious to one of ordinary skill in the art to any offset any offset because this simply amounts to calibrating or zeroing the measuring instrument,

and it is well-known that such a process is necessary to obtain an accurate measurement.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL M. WEST whose telephone number is (571)272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hezron Williams/

Supervisory Patent Examiner, Art Unit 2856